

REMARKS

Applicant seeks reconsideration of the application. No claims have been canceled, two claims have been added and no claims have been amended. Accordingly, Claims 28-36 are pending.

I. 35 U.S.C. § 103

In the Office Action, the Examiner rejects Claims 28-34 under 35 U.S.C. § 103(a) as unpatentable over Sakaguchi et al. (U.S. Patent No. 5,966,620) in view of Applicant's acknowledged prior art figure 2 (FIG. 2). Applicant respectfully traverses this rejection.

Before specifically addressing the Examiner's rejections under 35 U.S.C. § 103, a brief review of the claimed subject matter may be desirable. In accordance with one embodiment, the specification discloses providing an integrated circuit that utilizes at least two layers of transistors in which a second layer of active devices is made of single silicon crystal. The specification discloses a way to fabricate a second layer of active devices made of single silicon crystal without damaging metal lines coupled between the active devices by heat during the fabricating process.

The background section of the specification indicates that, prior to the disclosure and claimed subject matter, the second layer of active devices (transistors) was not made of a single-crystal silicon but was made of a polycrystalline silicon or amorphous silicon because fabrication of a second layer of active devices made of single silicon crystal requires processing steps that are performed well beyond the temperature that the interconnect system (e.g., metal lines interconnecting the transistors) can withstand. Accordingly, prior to the disclosure and claimed subject matter, an attempt may have been made to construct a second layer of active devices made of single silicon crystal; however, such structure could not be properly fabricated because the metal lines coupled between the active devices become damaged by heat during the fabrication process.

Sakaguchi discloses a process for producing a monocrystalline semiconductor on a dielectric-isolated or insulative material and a monocrystalline compound semiconductor on a semiconductor substrate. However, as correctly noted by the Examiner, Sakaguchi does not teach or suggest a second single crystal substrate portion having active devices formed thereon and defining a device surface, as claimed in Claim 28. Consequently, there is nothing in Sakaguchi that teaches or suggests providing a second single crystal substrate portion having active devices formed thereon in which the active devices are intercoupled via metal lines, much less forming active devices on a second layer made of single silicon crystal without damaging metal lines coupled between the active devices.

Background section and FIG. 2 of Applicant's specification also does not disclose or suggest a second single crystal substrate portion having active devices formed thereon and intercoupled via metal lines, as claimed in Claim 28. Instead, the background second and FIG. 2 specifically note that a second single crystal substrate portion having active devices formed thereon and intercoupled via metal lines could not be fabricated because the metal lines coupled between the active devices will become damaged by heat during the fabrication process.

In this regard, it is not clear how the structure taught by Sakaguchi could be modified in accordance with the subject matter of Claim 28 because the background section of the specification (e.g., section describing FIG. 2) specifically indicates that a second layer of active devices made of single silicon crystal could not be fabricated without damaging the metal lines intercoupling the active devices, prior to the disclosure and claimed subject matter, because of the required fabricating steps that are performed well beyond the temperature that the interconnect system can withstand. Similarly, Sakaguchi also does not teach or suggest how a second layer of active devices made of single silicon crystal can be fabricated without damaging metal lines coupled between the active devices by heat during the fabricating process. Therefore, even if Sakaguchi and FIG. 2 could be combined, the combination would not yield the apparatus as claimed in Claims 28 and 31, as none of the cited references disclose or suggest providing a second single crystal substrate

portion having active devices formed thereon in which the active devices are intercoupled via metal lines.

Accordingly, the cited references, individually or in combination, fail to disclose or suggest providing a second single crystal substrate portion having active devices formed thereon in which the active devices are intercoupled via metal lines, as claimed in Claims 28 and 31.

In view of the foregoing, Applicant respectfully submits that Claims 28 and 31 are not obvious over Sakaguchi in view of FIG. 2 and requests withdrawal of the rejection of Claims 28 and 31. Dependent Claims 29, 30 and 32-34 are submitted as not being obvious in view of the relied upon prior art at least for the reasons given in support of their base Claims 28 and 31.

II. New Claims

Applicant respectfully submits that New Claims 35 and 36 are supported by the original disclosure. With respect to New Claims 35 and 36, Applicant incorporates the prior arguments with respect to their base Claims 28 and 31.

Additionally, Applicant respectfully submits that neither Sakaguchi nor FIG. 2 discloses metal lines, intercoupling active devices formed on a second single crystal substrate, which are unimpaired by heat during fabrication.

In view of the foregoing, Applicant is of the opinion that New Claims 35 and 36 are allowable over the cited references.

CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date. If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Dated: August 9, 2002

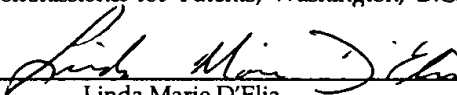


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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box AF, Non-Fee, Commissioner for Patents, Washington, D.C. 20231 on August 9, 2002.



Linda Marie D'Elia

August 9, 2002

Attachment: Version With Markings To Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

The following new claims have been added:

--35. (New) The apparatus of claim 28, wherein said metal lines, intercoupling said active devices formed on said second single crystal substrate portion, are unimpaired by heat during fabrication.

36. (New) The apparatus of claim 31, wherein said metal lines, intercoupling said active devices formed on said at least one secondary single crystal substrate, are unimpaired by heat during fabrication.--